

CHAPTER 52-03-06 IMPACT TEST

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52-03-06-01. Shock absorption. Shock absorption shall be measured by imparted acceleration to an appropriately instrumented movable head form dropping in guided fall upon a fixed, rigid anvil.

General Authority: NDCC 39-02-03
Law Implemented: NDCC 39-10.2-06

52-03-06-02. Acceleration levels. The helmet shall be rejected if any portion of the acceleration pulse exceeds four hundred gravities, or if the total time of acceleration above the two hundred gravity level exceeds two milliseconds, or if the total time of acceleration above the one hundred and fifty gravity level exceeds four milliseconds. The maximum allowable acceleration levels set forth in this section shall apply to ambient temperature impact, low temperature impact, water immersion impact, and high temperature impact tests.

General Authority: NDCC 39-02-03
Law Implemented: NDCC 39-10.2-06

52-03-06-03. Place of testing. Each helmet shall be impacted in not less than four sites. The impact sites shall be above the reference plane and separated from each other by a distance equal to one-fifth or more of the maximal circumference of the helmet.

General Authority: NDCC 39-02-03
Law Implemented: NDCC 39-10.2-06

52-03-06-04. Surface to be tested. An equal number of impacts shall be applied on a flat impact surface at least five inches [12.7 centimeters] in diameter and hemispherical impact anvil with a radius of one and nine tenths inches [4.83 centimeters]. The flat and hemispherical impact surfaces shall be mounted on a rigid anvil weighing at least three hundred pounds [136.08 kilograms].

General Authority: NDCC 39-02-03
Law Implemented: NDCC 39-10.2-06

52-03-06-05. Testing tool. The impacts shall be made with a head form fabricated from low resonance magnesium alloy (K-1A) and a light weight

supporting crosshead. The combined weight of the crosshead and head form shall be eleven plus two tenths minus zero pounds [5 plus .91 minus 0 kilograms].

General Authority: NDCC 39-02-03

Law Implemented: NDCC 39-10.2-06

52-03-06-06. Energy used. The impact energy utilized shall be fifty foot-pounds [7.42 kilogram-meters] with the hemispherical anvil face fifty-four inches or one hundred thirty-four centimeter drop and sixty-six foot-pounds [9.8 kilogram-meters] with the flat anvil face seventy-two inches or one hundred eighty-three centimeter drop.

General Authority: NDCC 39-02-03

Law Implemented: NDCC 39-10.2-06